

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/014850

International filing date (day/month/year)
30.12.2004

Priority date (day/month/year)
30.12.2003

International Patent Classification (IPC) or both national classification and IPC
B64D11/04, B64D13/06, F25D17/02

Applicant
AIRBUS DEUTSCHLAND GMBH

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/014850

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/014850

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	4,12-14,16,18,19
	No: Claims	1-3,5-11,15,17,20-21
Inventive step (IS)	Yes: Claims	12-14
	No: Claims	4,16,18,19
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

PCT/EP2004/014850

The following documents are referred to in this communication:

D1 : US 2003/042361 A1 (SIMADIRIS GEORGE ET AL) 6 March 2003 (2003-03-06)
D2 : DE 199 52 524 A1 (EADS Airbus GmbH) 10 May 2001 (2001-05-10)
D3 : US 5 702 073 A (FLUEGEL KYLE G.) 30 December 1997 (1997-12-30)
D4 : US 5 671 607 A (CLEMENS ET AL.) 30 September 1997 (1997-09-30)

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

INDEPENDENT CLAIM 1

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT. Document D1 discloses (the references in parentheses applying to this document):

- A cooling system for cooling heat-generating installations (claim 1), the cooling system comprising
- a refrigerating installation (figure 2, item 30)
- at least one refrigeration consumer (figure 2, item 20)
- a refrigeration transport system connecting the refrigerating installation and the refrigeration consumer (figure 2, item 32)
- the refrigerating installation comprising at least one refrigeration machine (item 30) and at least one refrigeration consumer (item 20) being supplied with cold generated in the refrigeration installation via a refrigerating agent circulating in the refrigeration transport system (paragraph [0007])

DEPENDENT CLAIMS 2-11, 15-21

Dependent claims 2-11, 15-21 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

**WRITTEN OPINION OF THE
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International application No.

PCT/EP2004/014850

- Claim 2 : Refrigeration machines working in parallel are known from D1 (figure 3)
- Claim 3 : The skilled person designs the cooling system in accordance with the cooling demand
- Claim 4 : D1 is silent as far as the heat sink for the refrigerating installation is concerned. Using the air inside the pressurized fuselage as a heat sink is however known from D2.
- Claim 5 : Vapour cycle refrigeration machines are known from D1 (paragraph [0037])
- Claim 6 : A refrigeration transport system pump is known from D1 (item 44)
- Claim 7 : A store is known from D1 (item 46)
- Claim 8 : A secondary refrigerating agent as claimed is known from D1 (par. [0032])
- Claim 9 : A central control unit as claimed is known from D1 (figure 8, item 66)
- Claim 10 : The sensors used by the control system to monitor the cooling requirement are known from D1 (paragraph [0048], [0051])
- Claim 11 : The additional features of claim 11 are known from D1 (paragraph [0009])
- Claim 15 : No shut off devices in the branches to and from the refrigeration machines are disclosed in D1 (figure 3).
- Claim 16 : Shut-off valves assigned to refrigeration machines are however known in the art (D3, column 5, line 18-29)
- Claim 17 : A controllable refrigeration capacity is known from D1 (paragraph [0009])
- Claim 18 : Monitoring the outflow temperature and controlling the refrigeration machine in response thereto is known from D1 (paragraph [0029])
- Claim 19 : Varying the compressor speed to control the refrigeration capacity is known in the art (e.g. D4, claim 11)
- Claim 20,21 : Altering the amount of refrigerating agent conveyed in the system is known from D1 (paragraph [0009])